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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,764	01/16/2004	Akira Yamaguchi	09792909-5771	6420
26263 7590 08/05/2010 SONNENSCHN NATH & ROSENTHAL LLP P.O. BOX 061080 WACKER DRIVE STATION, WILLIS TOWER CHICAGO, IL 60606-1080				
EXAMINER				
DOVE, TRACY MAE				
ART UNIT		PAPER NUMBER		
1795				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/758,764

Applicant(s)

YAMAGUCHI ET AL.

Examiner

TRACY DOVE

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 8-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 16-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the communication filed on 4/16/10. Applicant's arguments have been considered, but are not persuasive. Claims 1-21 are pending. Claims 8-15 are withdrawn for being directed to a nonelected invention. This Action is FINAL. Note the after final amendment of 4/16/10 was indicated as entered in the advisory action of 4/29/10.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/13/10 has been entered.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Claims Analysis

Claim 1 recites the phrase "a gas adsorbing carbon material" and claim 20 recites "the carbonaceous material", which appear to refer to the same element of the claimed invention. Examiner suggests claim 20 be amended to recite "the gas adsorbing carbon material".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 7 and 17-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeuchi et al., US 5,807,645.

Takeuchi teaches an electrode comprising acetylene black or carbon black carbonaceous diluent having a surface area less than about 100 m²/g mixed with graphite and a charge transfer active material to provide an electrode active admixture. The carbonaceous diluent increase the charge transfer capability within the electrode while exhibiting diminished cell swelling (abstract). The electrode is contained in a nonaqueous electrochemical cell having a cathode, an anode, a separator and a nonaqueous electrolyte. Both the anode and the cathode include charge transfer active materials (3:66-5:7). The conductive diluent is preferably present in the electrode active admixture in an amount of 0.5-2 wt% (4:43-51). The separator may be polyvinylidene fluoride (polymer material) (5:8-19). The electrolyte may include a conductive salt and a nonaqueous solvent. The salt may be LiPF₆ or LiBF₄ (6:6-15) and the solvent may be a carbonate (5:53-6:5). The cell is contained within a metal casing (6:36-54).

Thus the claims are anticipated.

Claims 1-5, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Mitsufumi et al., JP 09-035718.

Mitsufumi teaches battery comprising an anode having an anode mixture containing an anode active material, and a cathode having a cathode mixture containing a cathode active material, said anode and the cathode being layered together via a separator (0002-0033; figure 1 and the corresponding text); a solid electrolyte including

a polymer material and an electrolyte salt contained therein (0028-0029 and 0035); and a film-shaped exterior material housing therein said battery and the solid electrolyte (see figure 1 and 0030 and 0040); wherein a gas adsorbing carbon material formed of a carbonaceous material having a specific surface not less than $30 \text{ m}^2/\text{g}$, said gas adsorbing carbon material being added to said anode mixture for adsorbing a gas evolved within the battery (abstract; 0023-0026). Carbon black is activated carbon as it absorbs gasses and is noted in an amount of 0.1-4% in the anode (0023-0026). Ketchien black and furnace black are taught in paragraph 0025. Ketchien black and Ketjen black are the same material as noted above. The carbon material is taught to have a specific surface area of not less than $700 \text{ m}^2/\text{g}$.

Thus the claims are anticipated.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeuchi et al., US 5,807,645 in view of Bannai, US 6,503,656 and/or EP 1063713.

Takeuchi teaches non-aqueous electrolyte batteries, as noted above. The battery may be housed in a cylindrical or square shaped housing. Takeuchi does not teach the battery has a laminate film of a metal layer and a resin layer as an exterior casing material. Bannai et al. (EP 1,063,713) teaches a battery to have a laminate film of a metal layer and a resin layer as an exterior casing material (see the claims, 0021-0022). It would have been obvious to one of ordinary skill in the art at the time the invention was made to house the battery of Takeuchi in a casing of a laminate film having a metal layer and a resin layer in order to provide a durable, light-weight casing

that has low permeability due to the metal layer and high sealability due to the resin layer (see '713, 0002-0004.) The artisan would have found the claimed invention to be obvious in light of the teachings of the references.

Furthermore, the skilled artisan would have known that batteries generally have an outer resin layer label that identifies the battery.

Response to Arguments

Applicant's arguments filed 4/16/10 with regard to the amended claims have been fully considered but are not persuasive.

Applicant argues Takeuchi teaches the carbonaceous diluent is added to the cathode and does not teach or suggest the carbonaceous diluent is added to the anode. Examiner disagrees. Takeuchi teaches the carbonaceous additives are useful as conductive diluents when mixed with solid electrode active materials, such as metals, metal oxide, metal sulfides, mixed metal oxides and carbonaceous materials, for the purpose of aiding in discharge rate capability of the cathode transfer active materials (2:36-41). While Takeuchi teaches the carbonaceous additives are particularly useful in the cathode (1:8-20), Takeuchi is not limited to any particular preferred embodiment. Takeuchi teaches the carbonaceous additives are useful as conductive diluents when mixed with solid electrode active materials such as metals. The anode active materials disclosed are metals (note none of the disclosed cathode active materials are metals, but are metal oxides, metal sulfides or carbon materials (columns 4-5)). Takeuchi teaches the carbonaceous additive are added to an electrode (cathode or anode).

Takeuchi broadly teaches the acetylene black or carbon black carbonaceous diluent is added to an electrode and is mixed with a charge transfer active material to provide an electrode active admixture (abstract). Takeuchi teaches the carbonaceous diluent may be added to the anode or the cathode.

Applicant argues Mitsufumi does not teach that the polymer binder is part of the liquid alkaline electrolyte solution, but is added to the active material. However, Mitsufumi teaches that the battery comprises a polyolefin such as polyethylene (0028). Polyethylene is clearly "a polymer material".

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRACY DOVE whose telephone number is (571)272-1285. The examiner can normally be reached on M & TU (9:00-5:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TRACY DOVE/
Primary Examiner, Art Unit 1795
February 12, 2010